Iowa TIER/FAST/IGDIs General Technology Requirements

Bandwidth Requirements

Iowa TIER works satisfactorily with at least 10 Mbps of available excess bandwidth in the building to handle the data traffic and assessment requirements for all of the assessments. This is assuming a rough maximum of 10-15 concurrent Iowa TIER users in the building. Recommended bandwidth is 15 Mbps for the smoothest experience.

The developers of the FAST and IGDIs assessments recommend that the building network has at least 30-40 Mbps capacity if the aReading test is administered in a lab setting. This would translate into a computer lab with roughly 1 Mbps per computer in simultaneous testing settings. This figure represents an estimate of the bandwidth needed for optimal performance. Many participating schools have reported that the actual observed bandwidth used is far below this amount, closer to .2 or .3 Mbps per computer. Locations have also reported poor performance in networks with lower bandwidth that was already operating near capacity with other traffic.

We recognize that there may be a few cases where the bandwidth requirements may be difficult to meet. The following recommendations might be helpful in successfully administering these assessments in buildings that do not have the recommended amount of bandwidth:

- If possible, arrange to temporarily increase bandwidth during testing windows. Consult with your network service provider for other options and an analysis of your network and needs.
- Plan to limit other bandwidth-intensive activity during testing times (avoid streaming video along with other activities that put a strain on your data network).
- Transport students to labs at other buildings with greater bandwidth for group testing.
- Plan for rolling testing (smaller numbers of students testing at a time), rather than a lab full of students starting at the same time.
- Ethernet wired computers may be more reliable than computers using wireless - especially if there are many wireless users in relatively weak wireless settings.

Wireless Network Requirements

If testing will be conducted using computers connected to the network via wireless, consider where this testing will occur, how many simultaneous users will be active (including those being assessed, and other users), and what the wireless capabilities are in these areas. Wireless capacity should be robust enough to handle the bandwidth as described above. If you are implementing wireless throttling, this will also impact TIER performance as well. Disabling throttling during this time will help to correct the problem.

Computer requirements

- The requirements for computers are minimal. The computer must be a relatively recent computer. Performance will be better with newer, faster computers.
- Iowa TIER will not be supported on any piece of software or operating system that is in Alpha or Beta testing. Please make sure that you are running the latest stable version release.
- In terms of operating systems, the minimums are: Windows 7; Mac OSX; Chrome OS.
- Computers must have a minimum screen resolution of 1024 x 768. (Recommended: 1200 x 800)
- For student administration of aReading, the device will need headphones and a mouse.
- At this time, Iowa TIER, FAST and IGDIs systems have **not** been certified to support tablet devices. Development work is underway in this area, but please do not count on it until we know the work is completed.
- There are no plans to support small-format handheld devices like smart phones.

Browser requirements

- Firefox and Chrome are supported browsers (current version).
- Within the browser, popup blockers must be disabled for FAST and Iowa TIER
- Within the browser, these items must be enabled:
  - JavaScript/CSS
  - Cookies (TIER/FAST/IGDIs)
  - SSL
  - Adobe Reader for PDFs
  - Adobe Flash (Firefox only)
- IE, Safari and other browsers are not currently supported

NOTE: Specifics for the required settings for the Chrome browser are still being developed.

Firewall and content filter settings

- Because of the cloud based architecture we are utilizing for TIER and FAST, it would probably be safest to filter by domain rather than IP addresses. If this is an option for your content filters, please add the following domains currently in use:
    - *.fastforteachers.org
    - d2f8p5dd32sgdr.cloudfront.net
    - d2cgff9myhb3dn.cloudfront.net
    - d1lxsdlt2ejkaz.cloudfront.net
    - d3kmno27idi06q.cloudfront.net
- These email domains need to be white-listed for communications related to Iowa TIER:
    - iowa.gov
    - edspring.org
    - public.govdelivery.com
    - iowatier.zendesk.com
    - Your AEA domain
- If a district uses packet shapers, traffic to and from the testing sites should be given adequate bandwidth and high priority.